

REMARKS

I. Status of the Claims

Claims 48-69 will be pending in this application after the instant amendments are entered. Claims 1-47 had been previously cancelled. Claims 50, 53, 54, 66, and 67 are withdrawn as directed to non-elected species. Claims 70-94 have been cancelled in view of the May 19, 2011, Restriction Requirement. Claim 48 has been amended to further limit the protruding elements. In addition to finding Section 112 support in original claims 77 and 82, the amendment also finds Section 112 support in the as-filed specification at page 15, ll. 26-30 and Fig. 2. Accordingly, no new matter is added with these claim amendments.

II. Rejections under 35 U.S.C. § 103(a)

A. Claims 48, 49, 51, 52, 55-58, 61, and 63-64

The Office rejects claims 48, 49, 51, 52, 55-58, 61, and 63-64 under 35 U.S.C. § 103(a) over European Patent Application No. EP 0 976 534 to Caretta et al. ("Caretta") in view of International Patent Application Publication No. WO 01/62480 to Scarzello et al. ("Scarzello"), U.S. Patent No. 5,201,975 to Holroyd et al. ("Holroyd"), and U.S. Patent No. 4,382,757 to Roy et al. ("Roy"). Office Action at 4-7.

According to the Office, Caretta discloses "a process for manufacturing a tire (Abstract) in which an elastomeric layer is provided on the outer surface of a toroidal support, the shape of the toroidal support's surface matching the shape of the inner surface of the tire ([0045-0046])." *Id.* at 4. However, the Office concedes that "Caretta does not utilize a toroidal support with internal protruding elements," and relies on Scarzello. *Id.* The Office contends that the teachings of Scarzello suggest that "one of

skill in the art would appreciate that the use of steam is well known for heating a toroidal support (page 9, line 34 through page 10, line 4),” and also cites Holroyd for similar reasons. *Id.* The Office further asserts that “one of skill in the art would have found it obvious to use steam to heat the toroidal support of Caretta during the elastomer procuring [sic] operation because it is a well known heating method.” *Id.* at 4-5. Roy is cited by the Office for teaching that “it is beneficial to provide protruding fins on the interior surface which is in contact with the steam for the benefit of increasing the heat-transfer from the steam (Column 4, lines 50-60).” *Id.* at 5.

The Office concludes that “one of ordinary skill in the art . . . would have found it obvious to provide protrusions on the interior surface of the toroidal support of the above combination of references for the benefit of increasing heat transfer through the toroidal support.” *Id.* at 5.

Applicants respectfully disagree; however, Applicants amended claim 48 to recite that the “protruding elements are distributed on the radially inner surface of the toroidal support corresponding to the crown portion of the green tyre,” and that the “protruding elements lie in a plane substantially perpendicular to the equatorial plane of the toroidal support.” To the extent that the Office may consider rejecting amended claim 48 based on the rejection of record, Applicants respectfully disagree and traverse the rejection for the reason that the combination of Caretta, Scarzello, Holroyd, and Roy fails to teach or suggest the present claims.

Caretta describes a tire manufacturing process that brings a fluid under pressure into contact with a green tire. Caretta at ¶ [0001]. As acknowledged by the Office, Caretta fails to teach *any* toroidal support with internal protruding elements, much less a

toroidal support wherein the protruding elements are distributed on the radially inner surface corresponding to the crown portion of the green tire and lie in a plane substantially perpendicular to the equatorial plane. *See e.g.*, claim 48, as-amended; *see also* Office Action at 4.

The remaining references - Scarzello, Holroyd and Roy - fail to remedy those deficiencies of Caretta. While Scarzello and Holroyd are relied upon for the application of steam to heat the toroidal support of Caretta (Office Action at 4-5), Applicants respectfully submit that neither reference teaches or suggests a toroidal support according to the amended claims. As with Caretta, Scarzello and Holroyd fail to disclose **any** toroidal support comprising internal protruding elements.

Lastly, Roy teaches an improved molding apparatus for expanding beads of polystyrene material into large blocks for insulating materials. Roy at Abstract. Roy is therefore **not** directed to the manufacturing of tires, and thus, one of ordinary skill in the tire art would have had no motivation to look to Roy in the first place to modify the tire manufacturing process of Caretta.

Regardless, Roy teaches that its plurality of fins projects inward into each chamber from the inner wall, with no indication that Roy's plurality of fins can be distributed on the radially inner surface of a toroidal support corresponding to the crown portion of the green tire, or that they can lie in a plane substantially perpendicular to the equatorial plane of the toroidal support such as recited in amended claim 48. *See* Figures 4-6, and 8-10. Accordingly, the combination of Caretta, Scarzello, Holroyd, and Roy fail to teach all of the elements of the pending claims. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (CCPA 1974) ("To establish a *prima facie* case of obviousness, the

Office must show that the prior art reference teaches or suggests all the claim limitations.”).

Moreover, Roy fails to provide one of ordinary skill in the art any guidance to modify Caretta based on Roy, and then further modify Roy’s fins such that they are arranged according to the present claims. Rather, in contrast to Roy, which fails to teach that its fins may be provided on **any** toroidal support, a person skilled in the art would recognize that the particular formation of ribs is very difficult to be achieved along a direction perpendicular to equatorial plane for a toroidal support. Hence, there is no motivation in the art to make any proposed modification. Roy also fails to appreciate the particular problems associated with the lack of uniformity in green tires and the solution identified by Applicants, i.e., the arrangement of the claimed protruding elements in relation to the toroidal support.

“Even where a general method that could have been applied to make the claimed product was known and within the level of skill of the ordinary artisan, the claim may nevertheless be nonobvious if the problem which had suggested use of the method had been previously unknown.” *Examination Guidelines Update: Developments in the Obviousness Inquiry After KSR v. Teleflex*, 75 Fed. Reg. 53,643, 53,646 (2010) (discussing *In re Omeprazole Patent Litigation*, 536 F.3d 1361 (Fed. Cir. 2008)). Accordingly, one of ordinary skill in the art would have had no motivation in combining Roy with Caretta, Scarzello and Holroyd, and even if they had, would not have been led to the presently pending process.

For the reasons discussed above, the combination Caretta, Scarzello, Holroyd, and Roy fails to render claims 48, 49, 51, 52, 55-58, 61, and 63-64 *prima facie* obvious. As such, Applicants respectfully request withdrawal of the rejection.

B. Claims 59, 60, 62, and 68

The Office rejects claims 59, 60, 62, and 68 under 35 U.S.C. § 103(a) over Caretta, Scarzello, Holroyd, and Roy, as applied to claim 48, further in view of U. S. Patent No. 1,394,928 to Midgley et al. ("Midgley"). Office Action at 7-9. Applicants respectfully disagree for at least the reason that the rejected claims all ultimately depend from claim 48. Midgley does not compensate for the deficiencies of Caretta, Scarzello, Holroyd and Roy, and in fact, fails to discuss *any* toroidal support comprising internal protruding elements. Accordingly, the combination of Caretta, Scarzello, Holroyd, Roy, and Midgley fails to render claims 59, 60, 62, and 68 *prima facie* obvious and thus, Applicants respectfully request withdrawal of the rejection.

C. Claim 69

The Office rejects claim 69 under 35 U.S.C. § 103(a) over Caretta, Scarzello, Holroyd, and Roy, as applied to claim 48, further in view of U. S. Patent No. 5,937,517 to Smith et al. ("Smith"). Office Action at 9. Applicants respectfully disagree and traverse the rejection for at least the reason that claim 69 ultimately depends from claim 48. Smith fails to remedy that deficiency. Rather, Smith is directed to a method of manufacturing a high performance dual bonded fin heat sink where said heat sink has a specific arrangement of fins in an alternating arrangement. Smith at Abstract; *see also* col. 2, ll. 28-50 and Figs. 1-7. Thus, Smith actually teaches away from the claimed process wherein a plurality of protruding elements can be distributed on the radially

inner surface of the toroidal support corresponding to the crown portion of the green tire, and can lie in a plane substantially perpendicular to the equatorial plane of the toroidal support. Accordingly, the combination of Caretta, Scarzello, Holroyd, Roy, and Smith would have led one of ordinary skill in the art in a completely different direction than the claimed process and as such, does not render claim 69 *prima facie* obvious. Thus, Applicants respectfully request withdrawal of the rejection.

III. Conclusion

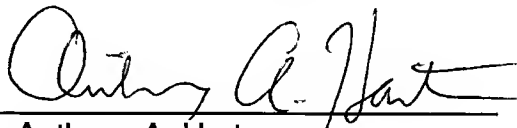
In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to Deposit Account No. 06-0916.

Respectfully submitted,

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